



The BARC Newsletter is published quarterly by Bangladesh Agricultural Research Council (BARC) to provide news and information on agricultural research and development to the NARS and other concerned organization in Bangladesh.

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BARC *Newsletter*

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National Vegetable Fair 2016

A three-day first ever National Vegetable Fair 2016 and Vegetables Showcasing was organized by Ministry of Agriculture during 17-19 January 2016 at Krishibid Institution Bangladesh (KIB), Farmgate, Dhaka. The fair was inaugurated by Mr. Anisul Islam Mahmud, MP, Hon'ble Minister for Water Resources and Begum Matia Chowdhury, MP, Hon'ble Minister for Agriculture. Mr. Shyamal Kanti Ghosh, Secretary, Ministry of Agriculture, Dr. Abul Kalam Azad, Executive Chairman, BARC, Mr. Md. Hamidur Rahman, Director General, Department of Agricultural Extension and all heads of the NARS institutes and other distinguished guests were also present on the occasion. The theme of the vegetable fair was *Diversified Vegetable Production Round the Year for Alleviating Poverty*. The fair came up with the showcasing of more than 200 varieties of vegetables. A rally was organized from South Plaza of National Parliament House, Manik Mia Avenue to observe the day.



Mr. Anisul Islam Mahmud, MP. Hon'ble Minister for Water Resources as Chief Guest, Begum Matia Chowdhury, MP. Hon'ble Minister for Agriculture, as Special Guest, Mr. Shyamal Kanti Ghosh, Secretary, Ministry of Agriculture and Dr. Abul Kalam Azad, Executive Chairman, BARC graced the seminar

As a part of this fair, a seminar on *Nutrition Security and Poverty Alleviation through Diversified Vegetable Production Round the Year* was organized on 17 January 2016 to mark the

day in the same venue. Mr. Anisul Islam Mahmud, MP, Hon'ble Minister for Water Resources was present as Chief Guest and Begum Matia Chowdhury, MP, Hon'ble Minister for Agriculture was present as Special Guest. Mr. Shyamal Kanti Ghosh, Secretary, Ministry of Agriculture presided over the seminar. Dr. Abul Kalam Azad, Executive Chairman, BARC was present as guest of honor. Welcome address was delivered by Mr. Md. Hamidur Rahman, Director General, Department of Agricultural Extension. Professor Dr. Md. Shahidur Rashid Bhuiyan, Pro-Vice Chancellor, Sher-e-Bangla Agricultural University presented the keynote paper. Dr. Bhuiyan emphasized the role of vegetable on nutrition and food security, cultivation of diversified varieties/cultivars of vegetable in the country, production calendar of vegetables and year round vegetable production models. He also mentioned the problems and prospects of vegetable production for income generation and livelihood improvement of rural people especially women.

The Chief Guest Mr. Anisul Islam Mahmud expressed his satisfaction on the tremendous improvement of vegetable production and also mentioned that Bangladesh has been ranked in 3rd position in the world's vegetable production. Hon'ble Agriculture Minister Begum Matia Chowdhury urged on year round diversified vegetable production considering food and nutrition security as well as employment opportunity. Matia Chowdhury addressed all the stakeholders for maintaining Good Agricultural Practices (GAP) regarding vegetable and fruits production, processing, packaging and marketing as per 7th five year plan. She also advised for empowering rural women for producing diversified vegetables from their homestead to ensure food and nutrition as well as livelihood improvement. Dr. Abul Kalam Azad, Executive Chairman, BARC gave importance on varietal improvement for increasing productivity, quality seed, safe storage and market chain development of vegetables to feed the ever-growing population. The chairperson Mr. Shyamal Kanti Ghosh emphasized on proper planning for year round diversified vegetable production to ensure nutrition security as well as income generation. About 1200 participants including government officials, scientist, personnel from DAE, private sectors and farmers attended the seminar.

Project Development and Management

A five day-long training workshop on *Project Development and Management* was organized by the Planning and Evaluation Division, BARC during 14-18 February 2016. Dr. Abul Kalam Azad, Executive Chairman, BARC was present as Chief Guest in the inaugural session. Dr. Paresh Chandra Golder, Member-Director, Planning & Evaluation presided over the inaugural ceremony. Senior scientists and officers from different divisions of BARC were present in the inauguration ceremony. Dr. Md. Abdul Awal, Chief Scientific Officer, Planning & Evaluation, BARC and the course coordinator of the workshop delivered the welcome address. Thirty participants from the different NARS institutes including BARC attended the workshop. Resource persons were from BARC, National Academy for Planning and Development (NAPD), Office of the Comptroller General of Accounts and Directorate of Fire Service and Civil Defense and Ministry of Home Affairs. The topics of the training workshop were project cycle, project appraisal, logical framework, preparation of different types of project documents (DPP/RDPP/TPP), developing winning research proposals, result based monitoring, PPR-2008, financial delegations, SWOT, Objectives and problem tree analysis etc. The workshop was conducted based on class lectures, practical sessions and open discussions. The Chief Guest in his speech mentioned that this training workshop was organized to make the participants conversant with project planning and management.



*Dr. Abul Kalam Azad, Executive Chairman
BARC giving speech as Chief Guest*

The chairperson of the training workshop in his speech hoped that this training would be helpful for the

participants to prepare and manage different kinds of projects properly and efficiently. The workshop ended with a certificate giving ceremony.

World's Biodiversity for Food and Agriculture: Bangladesh Part

A day-long consultation workshop was held at BARC on 9 January 2016 for preparing first draft of the country report of *The State of the World's Biodiversity for Food and Agriculture: Bangladesh Part* organized by Crops Division, BARC. Dr. Md. Aziz Zilani Chowdhury, Member-Director, Crops, BARC and National Focal point delivered the welcome address. Dr. Abul Kalam Azad, Executive Chairman presided over the inaugural session and Professor Dr. Md. Shahidur Rashid Bhuiyan, Pro-Vice Chancellor, Sher-e-Bangla Agricultural University (SAU) was present as expert service provider. About 40 participants including institutional focal points of NARS institutes, agricultural universities and other public universities attended the workshop. The objective of the workshop was to collate the information regarding biodiversity of plants, livestock, fisheries and aquatics as well as micro-organisms existing in ecosystem for preparing country report of Bangladesh as per prescribed format of FAO. Dr. Md. Aziz Zilani Chowdhury stated that world biodiversity is gradually eroded owing to the effect of changing climate. He also emphasized on high yielding modern varieties rather than maintaining and conserving local cultivars to conserve biodiversity. In this regard, FAO has taken an initiative to prepare report on The State of the World's Biodiversity for Food and Agriculture globally. As the signatory of Convention on Biological Diversity (CBD), Government of Bangladesh is committed for implementation Global Plan of Action on the conservation and resilience use of genetic resources. In this context, Ministry of Agriculture nominated BARC as national focal point for the preparation of the country report of Bangladesh. FAO provided a common format having different tables and questionnaire for collecting information with a view to preparing the report. Dr. Azad emphasized the importance of conservation and sustainable use of biodiversity for improving agricultural productivity for food and nutrition security, ecosystem services and livelihood improvement and their documentation also necessary for the wellbeing of our country as well as global perspective.



Dr. Abul Kalam Azad, Executive Chairman presided over the inaugural session

In the technical session, Expert Service Provider Dr. Md. Shahidur Rashid Bhuiyan discussed and clarified all the matter as per FAO guidelines for collating and synthesizing the information within prescribed period. There was also a brainstorming session among different sectors groups viz., crops, livestock and fisheries and others. Thereafter collected relevant information from institutional focal points and other sources, Dr. Bhuiyan prepared the first draft report which was reviewed by the experts of crops, livestock and fisheries through an expert consultation meeting on 12 January 2016. Consequently the draft country report was submitted by BARC to FAO for their comments and suggestions. The draft country report of Bangladesh was appreciated by FAO for incorporating biodiversity information as per prescribed format. However, some comments and suggestions were made for revising the report. In this context, a day-long workshop for revision of the country report was held at BARC on 2 March 2016. Dr. Abul Kalam Azad, Executive Chairman presided the inaugural session. About forty five participants from different NARS institutes, agricultural universities and other public universities attended the workshop. Dr. Bhuiyan, Pro-Vice Chancellor, SAU and Expert Service provider explained all the comments and suggestions of FAO for revision of the final report. After inclusion of available information the final report was submitted by BARC to FAO on 16 March 2016.

Training Workshop on Communications for Policy Research and Impact

The South Asia office of the International Food Policy Research Institute, through its Regional

Strategic Analysis and Knowledge Support System (ReSAKSS) in collaboration with SAARC and Bangladesh Agricultural Research Council organized a three day *Training Workshop on Communications for Policy Research and Impact* at BARC from 29-31 March 2016. The Chief Guest Mr. Mohammad Moinuddin Abdullah, Hon'ble Secretary, Ministry of Agriculture, inaugurated this training workshop. The workshop presided over by Dr. Abul Kalam Azad, Executive Chairman, Bangladesh Agricultural Research Council. Mr. MJH Jabed, Director (Agri, Rural Dev. & SAARC Development Fund), SAARC Secretariat, and Dr. Akhter Ahmed, Chief of Party, Policy Research and Strategy Support Program for Food Security and Agricultural Development in Bangladesh (PRSSP), IFPRI were present as Special Guests.

Dr. Suresh Babu, Senior Research Fellow and Head, Capacity Strengthening (IPFRI), Washington, U.S.A was present and spoke the details objectives of this training workshop as key resource speaker. Dr. S.M Bokhtiar, Director, SAARC Agriculture Centre also spoke on the occasion.

Among others the inaugural session was attended by heads of different agricultural research and extension organization including the DG of DAE Md. Hamidur Rahman, DG of BARI Dr. Md. Rafiqul Islam Mandal, DG of BJRI Dr. Md. Kamal Uddin, Director of SRDI Mr. Khandker Moinuddin, and Executive Director of CDB Dr. Md. Farid Uddin.



Group Photo of Participants of the Training

The training was given by expert senior communicators in developing written and oral communications on the policy knowledge on food, food security, agriculture nutrition, climate change etc. Knowledge skill from social media management, policy communications materials such as policy memos, policy briefs, and writing winning proposals and scientific articles etc. Nine resource

persons from home and abroad conducted different sessions in the program to enhance participants' capacity to communicate on mentioned topics.

The workshop brought together more than 37 young communicators working in the agriculture, sustainability and resilience areas from Sri Lanka, Nepal, India and Bangladesh.

The overall aim of the workshop was to develop policy communication skills of the researchers, mentors, forecaster, and policy makers. Thirty seven participants discussed key issues in policy communications identified through a strong discussions and plenary session. In closing session participants gave their feedbacks and thanked BARC for organizing such an important training that would help them strengthen their skills in policy communications.

Knowledge and Awareness Building on Agricultural Policies of Bangladesh

A three-day long training programme on *Knowledge and Awareness Building on Agricultural Policies of Bangladesh* was organized by Crops Division, BARC during 22-24 March 2016 at BARC. The objective of the training programme was to update the scientists and officials on different agricultural policies and related issues for enhancing the capacity to address the national issues following rules and regulations.



Dr. Abul Kalam Azad, EC,BARC addressing the meeting

A total of 40 participants from NARS institutes, DAE, BADC, SCA, AIS, DAM and MoA attended the programme. In the inaugural session, Dr. Abul Kalam Azad, Executive Chairman, BARC was present as the Chief Guest and Dr. Md. Rafiqul Islam Mondal, Director General, BARI was present

as the Special Guest. Dr. Md. Aziz Zilani Chowdhury, Member-Director (Crops), BARC chaired the session. Dr. Mian Sayeed Hassan, Chief Scientific Officer (Crops), BARC and training coordinator delivered the welcome address briefing the training programme. Dr. Md. Rafiqul Islam Mondal emphasized the importance of agricultural policies that need to be known by every scientists/officials for efficiently enhancement of capacity to address officials issues. Dr. Abul Kalam Azad in his speech reiterated the necessity of human resources development regarding policy guidelines and different acts for effective and efficient office management.

Dr. Md. Aziz Zilani Chowdhury highlighted the roles of acts and policy guidelines on the socio-economic improvement of the country and hoped that the training would be helpful for enhancing skills of the participants. In this training programme 16 lectures were delivered on National Agricultural Policy, Agricultural Research Priorities, 7th Five Year Plan, SDGs, CIP, Plant Quarantine Law, Food Safety Act, National Seed Policy, Bio-safety Guidelines and Biosafety Rules of Bangladesh, GAP, Climate Change etc. Experienced experts from relevant fields were invited as the resource speakers and the training proceeded in an interactive ways. Finally, certificate was given to each trainee by Dr. Abul Kalam Azad, Executive Chairman, BARC.

Training on Use of Fertilizer Recommendation Guide-2012

A training on *Use of Fertilizer Recommendation Guide-2012 (FRG-2012)* was organized by Soils Unit, NRM, BARC during 21-23 March 2016 at BARC. Dr. Md. Abdus Satter, CSO (Soils), NRM Division, BARC coordinated the program. A total of 40 trainees from different Agricultural Research Institutes (ARIs), Department of Agricultural Extension (DAE), Bangladesh Agricultural Development Corporation (BADC) and Agricultural Universities attended the program. Senior scientists from BARC, BARI, BRRI, BINA and SRDI and teachers from Bangladesh Agricultural University (BAU) and Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU) were the resource speakers. Six batches of the training course have been completed after publication of the FRG in 2012. About 240 scientists/officers from different ARIs, DAE, BADC and Universities have been

trained on the course. There were both theoretical lectures and practical classes in the course. Theoretical lectures covered major aspects of soil fertility and fertilizer management, more specifically, soil fertility status of different Agro-Ecological Zones (AEZs) of Bangladesh, availability of plant nutrients, fertilizer recommendations for crops and cropping patterns, rationale of fertilizer use, means of improving efficiency of applied fertilizers, use of bio-fertilizers, soil organic matter management, different aspects of organic fertilizers- their production and use etc.



Dr. Md. Abdus Satter, CSO (Soils) addressing the concluding session

There were two practical classes on *Identification of adulterated fertilizers at the field level* with some qualitative tests using locally available materials. Classes were held at the Central Laboratory of Soil Resource Development Institute, Dhaka. In the concluding session the participants were asked to provide their comments and suggestions on the course content and overall management of the program for improvement of the future programs. Participants highly appreciated the program and suggested to extend duration of the program and allocate more time at the end of classes for discussion.

Fertilizer Technical Sub-Committee Meeting

A meeting of *Fertilizer Technical Sub-Committee (FTC)* was held at BARC Conference Room-1 on 24 February 2016. The meeting was presided over by Dr. Sultan Ahmed, Member-Director, NRM, BARC and Convener of the committee. Almost all the designated members of the committee attended the meeting. A total of 22 applications of organic fertilizers, bio-fertilizers and Plant Growth Regulators (PGRs) that were under on-going

standardization process were reviewed in the meeting. Field trial reports of three organic fertilizers were thoroughly reviewed. Agronomic and economic performances of the fertilizers were found satisfactory. Based on the results, the above three organic fertilizers were recommended and sent to the National Fertilizer Standardization Committee at Ministry of Agriculture (MoA) for approval. Besides, new applications of seven organic fertilizers, one bio-fertilizer and four PGRs were also evaluated in the meeting. Composition of those fertilizers and PGRs were compared with the standard composition. One organic fertilizer was rejected due to non-compliance with the standard composition and the others were recommended for the next step of the standardization process.



Dr. Sultan Ahmmmed, MD, NRM, addressing the meeting

and the Chief Guest was Dr. Lutfor Rahman Khan, Ex-VC, BSMRAU and Professor, Department of Irrigation and Water Management, BAU. The first technical session was chaired by Mr. M. Harun- ur - Rashid, former Executive Chairman, BARC. In this session, Bangladesh Agricultural Development Corporation, Barind Multipurpose Development Authority, Department of Agricultural Extension, Rural Development Academy and International Rice Research Institute presented their papers. The second one was chaired by Dr. Ahmed Ali Hassan, Ex-Director General, BINA. In this session scientists from NARS institutes presented papers on *the Status and Future Proposition of Irrigation and Water Management Technologies in Bangladesh*. The concluding session was chaired by Dr. Sultan Ahmmmed and the designated rapporteurs presented their reports. After detail discussions the following draft recommendations were made:

1. Water saving technologies, especially AWD, to be developed for individual agro ecological zone and socio-economic study is to be made for better utilization of the technologies
2. Research and development to be done for the improvement of the sprinkler, drip and buried pipe irrigation systems to make them user friendly in order to increase water use efficiency
3. Renewable energy (i.e., solar energy) to be utilized for irrigating high value low water requiring crops to make the system economically feasible
4. Creek (chara) and lake waters of the hilly areas to be conserved by constructing RCC cross-dams to mitigate the acute water crisis for irrigation, fish/duck culture and household uses during dry period
5. Existing irrigation and water management technologies for crop production in the coastal saline prone areas to be upgraded and disseminated among the farmers
6. Water management plans for the water-logged areas to be included in the IWM programmes and appropriate measures are to be devised for the mitigation
7. Crop water requirement to be assessed and the cropping pattern be scheduled under the climate change context
8. Surface water conservation and rain water harvesting through canal digging, rubber dams and other suitable conservation structures are to be strengthen for increasing irrigation coverage
9. Re-use of waste water from local urban areas and

Present Status and Future of Irrigation and Water Management Technologies

A workshop on *Irrigation and Water Management Technologies: Present Status and Future Proposition* was held at BARC on 14 March 2016. About 80 participants from BARI, BRRI, BJRI, BINA, BSRI, Bangladesh Agricultural Development Corporation, Barind Multipurpose Development Authority, Department of Agricultural Extension, Rural Development Academy, Bangladesh Water Development Board, Institute of Water Modeling, International Rice Research Institute, Sylhet Agricultural University, Haji Danesh Science and Technology University, Proshika, CIMMYT, CEGIS, and Bangladesh Agricultural University participated in the program. The workshop was split into inaugural, two technical and concluding sessions. The inaugural session was held under the chairmanship of Dr. Sultan Ahmmmed, Member Director (NRM), BARC

agro-processing industries for irrigation use and its effects on soils, crops and food chain are to be studied



A view of the Inaugural Session

10. Recent data to be generated on the availability of aquifer recharge and groundwater level fluctuations for different areas/ regions of the country
11. Provision for installing deep tube wells (DTWs) to be made at the deeper aquifer to avoid pumping of arsenic contaminated water and enhancing irrigated agriculture in areas where aquifer is fully recharged during the rainy season in each year
12. Appropriate modeling techniques including GIS to be applied for assessing both surface and groundwater resources based on basins and/or hydrologic regions. Expertise of Universities, CGEIS and Institute of Water Modeling (IWM) can be involved for such studies
13. Linkage of research institutes with irrigation equipment manufacturers are to be strengthen to develop technologies in simplified ways to make easily available to the farmers
14. MoUs between RDA and the NARS research institutes are to be made so that the most appropriate and selective IWM technologies can be tested collaboratively at farmers' fields under RDA's Pilot Programme
15. All viable IWM related technologies developed by the NARS research institutes, universities, GOs and NGOs are to be posted in their respective web sites for wide circulation. BARC, as the apex body of NARS, can take necessary steps for proper selection and documentation of the proven technologies.

Agricultural Mechanization Roadmap of Bangladesh submitted

Ministry of Agriculture formed a Mechanization Roadmap Committee to prepare a Mechanization Roadmap with Executive Chairman, BARC as Convener and Director Generals of BARI, BRRI, BJRI, BSRI, Director General of DAE and Professor of Bangladesh Agricultural University as Member. Executive Chairman, BARC formed sub-committee with Dr. Sultan Ahmed, Member Director (NRM), BARC as Convener. Professor Dr. Md. Monjurul Alam, BAU; Dr. ASM Amanullah, Director (T&T), BSRI; Dr. Md. Abdur Rahman, CSO & Head, FMPHT Division, BRRI; Dr. Md. Israel Hossain, CSO and Head, FMPE Division, BARI; Dr. Mujibur Rahman, CSO, Jute Farming Systems Division, BJRI; Dr. Nazmun Nahar Karim, PSO, Agril. Engg. Unit, BARC; Dr. Md. Ayub Hossain, PSO, FMPE Division, BARI; Dr. AKM Saiful Islam, PSO, FMPHT Division, BRRI; Md. S. Islam Sheikh, DPD, Farm Mechanization Project, DAE and Sheikh Md. Nazimuddin, Program Director, Farm Mechanization Project, DAE were made members of the sub-committee. A draft Agricultural Mechanization Roadmap for 2021, 2031 and 2041 prepared by the Committee and Sub-committee and submitted to Ministry of Agriculture on 31 January 2016. This roadmap includes challenges, activities, implementation strategies, sources of fund and approximate fund for implementation etc.

Awareness Building for Safe Food and Balanced Diet Using Food Plate

For creating awareness and to disseminate messages on nutrition based food, the Nutrition Unit, BARC organizes a series of training/seminars for the multi-sectoral stakeholders like formal and non formal teachers, Sub Assistant Agriculture Officers, NGO representatives, producers, family farmers, traders and consumers etc. The seminars focus on scientific methods of agro-products including fruits and vegetables processing and preservation, food hygienic, ideal cooking practice, sanitation, food safety and quality, food adulteration and contamination and its mitigation measures for improvement of nutrition knowledge of the people. As a part of dissemination of nutrition information and awareness building programme, a colourful food plate, decorated with different kinds of fruits, vegetables and food items, has been designed and

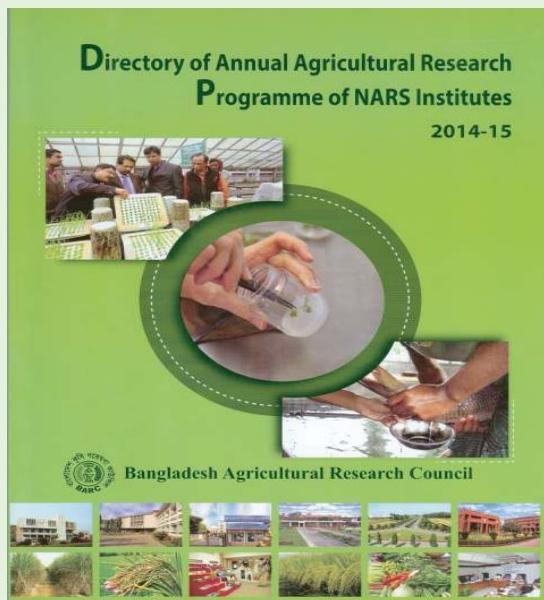
developed by the Nutrition Unit. The plate contains key messages and advices on balance diet, safe



food, cooking process to restore food value. While the plate will be used as food plate, people will have attention to the messages inscribed on it. The plate can also be used as showpiece in the drawing room. A number of food plates have already been distributed through training and workshop. It is well accepted by the different stakeholders.

Directory of Annual Agricultural Research Programme of NARS Institutes Published

Bangladesh Agricultural Research Council published Directory of Annual Agricultural



Research Programme of NARS Institutes 2014-15 with the fund of AFACI-ATIN project. BARC has taken this initiative for the first time, to gather and document the annual agricultural research programme of twelve NARS institutes.

The research programme are recorded by discipline and location under different program/projects planned for implementation by the NARS institutes during the fiscal year 2014-15. This document will help the research planners and the researchers to take note of the works planned/done while formulating new research continuity of a promising activity and avoidance in repetition of a research work. The directory is compiled and edited by Dr. Abul Kalam Azad, Md. Abeed Hossain Chowdhury and Dr. Md. Abdul Quayyum.

Crop Calendars Published

Crop calendars of 5 crops, litchi, summer tomato, lentil, onion and sugarcane have been published during January-March 2016 (30,000 copies) and distributed to Department of Agricultural Extension, Agriculture Information Service, concerned NARS institutes, relevant divisions of BARC and other concerned organizations. The crop calendars have been prepared in Bangla covering information starting from pre-plantation to post-harvest activities of the crop. These includes land preparation, seed treatment, plantation time and method, fertilizer dose with application, irrigation, intercultural operation, pest and disease management, harvesting and post-harvest management. Crop calendar has been published as an extension material for the farmers, extension workers and academics. The information included in the crop calendars were collected and collated by highly experienced agricultural professionals, hired for the purpose. The content of the calendars have been determined based on several interactive sessions, feedback and peer review comments. Member Director (Crops), BARC with support from his scientific staff did the final editing of the crop calendars. The overall activity of the crop calendar preparation was supervised by a three member committee (one member from the Department of Agricultural Extension) headed by Principal Investigator of ATIN project. In addition to these 5, earlier 10 crop calendars on rice (aus, aman, boro), mustard, wheat, maize potato, mungbean, mango

and jute have been published. All the crop calendars are available in the website: <http://cropcalender.barcapps.gov.bd>.



Member Director (Crops), BARC with support from his scientific staff finalizing the crops calendars

Training Workshop on ARMIS

Agricultural Research Management Information System (ARMIS) is a central repository of agricultural research information in Bangladesh which is developed to provide real time information for conducting, planning and evaluation of research together with need analysis and draw up new program/projects. It helps enhance the capacity of human resources and optimize the utilization of the limited resources throughout avoiding wasteful research duplication. Computer and GIS unit of BARC is implementing the activities of ARMIS since July 2013.



A view of training workshop on ARMIS Software and its Operation

A series of training workshop on ARMIS Software and its operation were held at different research institutes and universities as an awareness building activities. During the period the training workshops were held in Bangladesh Sugarcrop Research Institute, Barisal University and Sylhet Agricultural

University on 10 February, 29 February and 15 March 2016 respectively. The purpose of the training workshop is to introduce the auto flow of information and overall operation of ARMIS to the NARS organizations, universities, other public organizations, NGOs etc. About 252 scientists and academics from BSRI, SRDI, BARI, BRRI, BINA, BSRTI, Rajshahi University, Barisal University, PSTU, Sylhet Agricultural University, Shahjalal University of Science & Technology (SUST) attended the training workshop through three different programs. More than 22,000 agricultural research information has already been incorporated into the ARMIS database. The ARMIS can be accessed through the link: <http://armis.barcapps.gov.bd>.

Visit Abroad

□ A study visit on SAARC GAP Scheme was held in India on 18-23 January 2016. Total eight participants from four SAARC countries (Bangladesh, Bhutan, Maldives and Nepal) participated in the program where two participants from each country one for Scheme Owner and other for Certification Body. Mr. Chaitanya Kumar Das, Director, Field Services Wing, Department of Agricultural Extension and Dr. SM Khorshed Alam, Principal Scientific Officer, Crops Division, Bangladesh Agricultural Research Council participated in the study visit.

□ Dr. Nazmun Nahar Karim, PSO, Agricultural Engineering Unit, BARC attended Inception Workshop on the Regional Database of Agricultural Mechanization in Asia and the Pacific held in Malaysia during 29-30 March 2016. This workshop organized by Centre for Sustainable Agricultural Mechanization (CSAM), ESCAP and coordinated by Malaysian Agricultural Research and Development Institute, Malaysia. The overall objective of the inception workshop was to facilitate mutual understanding on this project, seek engagement and collaboration from member countries and to identify opportunities. To facilitate the establishment of a regional database of agricultural mechanization in Asia and the Pacific and to lay solid steps, a wide range of project activities will be organized in 2016-2017, including:
i. Establishment of a Knowledge Resource Network; ii. Construction of the regional database structure; iii. Organization of pilot trainings in 2 countries; iv. Development of country assessment in

2 countries; v. Organization of 2 policy dialogues; vi. Organization of several tailor-made national trainings; vii. Pilot operation of the regional database upon initial data collection and viii. Organization of annual regional workshops.

□ Dr. A.S.M. Anwarul Huq, Member Director (AERS), BARC participated in a Regional Workshop on Training of Trainers for Official Statistics during 29 February to 3 March 2016 in Chiba, Japan. The program was organized by Statistical Institute for Asia and the Pacific (SIAP) a subsidiary body of the Economic and Social Commission for Asia and the Pacific (ESCAP).

Field Visit/Monitoring and Research Review

□ Scientists of NRM Division conducted Field Monitoring of Research Projects under Research grant of BARC. Dr. M.A. Satter, CSO (Soils) and Dr. Nazmun Nahar, PSO (Agril. Eng.) visited Barisal, Barguna and Patuakhali districts during 28 February to 3 March 2016 for monitoring the projects of BARI, BRRI and Patuakhali Science and Technology University under the research grant. The scientists visited the research fields and discussed with the concerned scientists, field staffs and farmers and collected updated information on the progress of activities compared with planned activities, problems and their suggestion/action needed for smooth running of the project.



Dr. M.A. Satter, CSO (Soils) and Dr. Nazmun Nahar, PSO (Agril. Eng.) visited different research projects under Research Grant of BARC.

□ Dr. Md. Shahjahan, CSO, Forestry Unit, NRM Division, BARC also attended the Technical Committee Meeting and research review of Bangladesh Forest Research Institute on 5 February 2016. About 50 scientists of different discipline was present in the workshop. Dr. Md. Shahjahan suggested research thrust on *Trema orientalis*. Nanotechnology in agar wood and suitability of uprooted tea plants as raw materials for pulp and paper industry and also particle board.

The team also provided some on the spot suggestions regarding crop management and other project activities for smooth running of the project.

□ Dr. Md. Saifullah, PSO, Forestry Unit, NRM Division, BARC visited with monitoring team member Md. Abee Hossain Choudhury, Director, Computer and GIS unit, BARC for monitoring of BARC funded Core Research Projects in Rangpur, Dinajpur and Nilfamari during 8-10 March 2016. They visited nine project activities at field level and found that most of the projects are working significantly good. Some projects disseminated developed technologies at farmers level like Quality seed/propagules production and dissemination of BARI released flower varieties in Bangladesh conducted by Dr. Kabita Anjumanara, PSO, HRC, BARI. Farmers are cultivating high yielding flower varieties of BARI and also benefited much.



Dr. Md. Saifullah, PSO, Forestry Unit, NRM Division, Md. Abee Hossain Choudhury, Director, Computer and GIS unit, BARC visited research project under Research Grant of BARC.

□ Dr. Md. Abdus Salam, Director (SS) and Md. Rafique Mostafa Kamal, Director, AIC (Monitoring Team-4) visited Rajshahi and Bogra for monitoring projects under research grant during 5-7 March 2016. The team visited farmers' fields at Rajshahi and Bogra to observe the impact of dissemination of quality seed/propagules of BARI released flower varieties. The team also visited farmers' fields at Bogra to observe the overall performance, benefit cost ratio, consumption and selling of vegetables. In both cases, farmers expressed their satisfaction both in terms of production and benefit obtained out of the disseminated technologies on BARI developed flowers, and vegetable and fruits varieties.

□ Dr. Bakhtiar and other committee member of Core Research Grant monitoring team visited Farm

Machinery and Postharvest Process Engineering Division, BARI, Joydebpur, Gazipur. They observed the functioning of a mechanical vegetable washing machine. It washes vegetable like carrot, brinjal and red amaranthus nicely.



Dr. M. Baktear Hossain along with the committee members visited the Vegetable Washing Machine Project

Fertilizer Factory/Lab Visit

As the team leader of Capacity Verification Committee of Fertilizer Factories, Dr. M. Baktear Hossain, PSO (Soils), BARC along with other two committee members visited the Organic Fertilizer Factory of Chittagong Waste Treatment Plant during 13-14 February 2016.



Committee members visited the Organic Fertilizer Factory of Chittagong Waste Treatment Plant

The Committee inspected the infrastructure of the factory, composting system, storage capacity and laboratory equipments; and submitted the inspection report to the Convener of the Fertilizer Technical Sub-committee. Dr. Baktear and other three team members also visited a bio-fertilizer factory Chemicon at Bhabanipur, Gazipur on 29 March

2016, collected bio-fertilizer samples for laboratory test and inspected infrastructure of the factory, lab equipments, quality control system, production system and storage facility.

Online Archive of Important Documents

An online archive database has been developed. The digital contents of non-conventional documents of high archival value (Policy documents, Reports of all kinds, Proceedings and other mimeographs) have been input in the database.

The screenshot shows the BARC ARCHIVE website interface. At the top, there is a logo for 'বাংলাদেশ প্রকৌশল এবং প্রযুক্তি সংস্থা' (BARC) and a search bar. Below the header, a banner states 'Commercial use of this data is strictly prohibited.' The main content area displays several categories of documents:

- Publications**: Total Documents: 47
- Tender**: Total Documents: 1
- Knowledge Bank**: Total Documents: 0
- Policy Document**: Total Documents: 3
- Achievements**: Total Documents: 1
- Circulars**: Total Documents: 3
- News & Events**
- Brochure & Catalogue**
- Others**

The full text database can be accessed through the link <http://archive.barcapps.gov.bd>.

Readers and Contributors

The scientists, technologists and concerned officials involved in NARS instituters are requested to send articles, success stories, research highlights and reports on important events with quality photographs for BARC Newsletter. Cooperation in this regard as well as your valuable comments and suggestions for our future endeavour would be highly appreciated.

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